



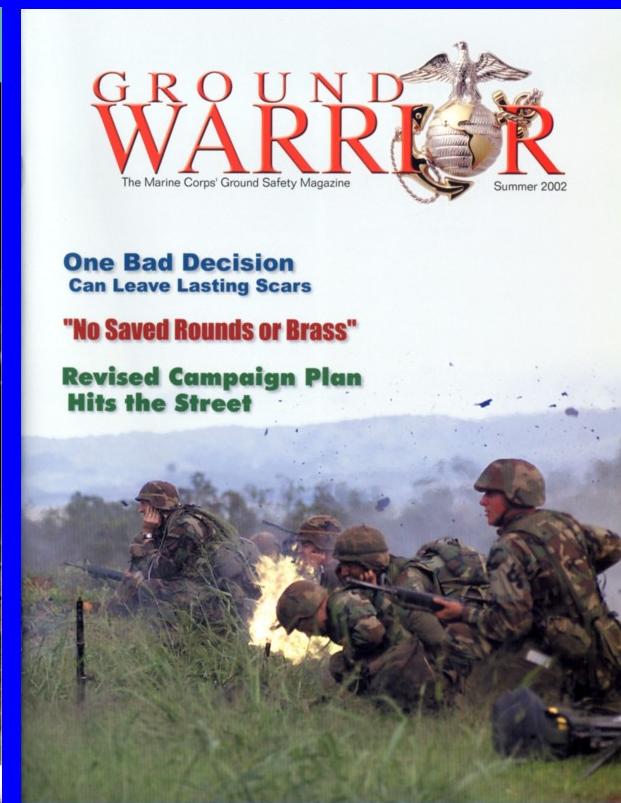
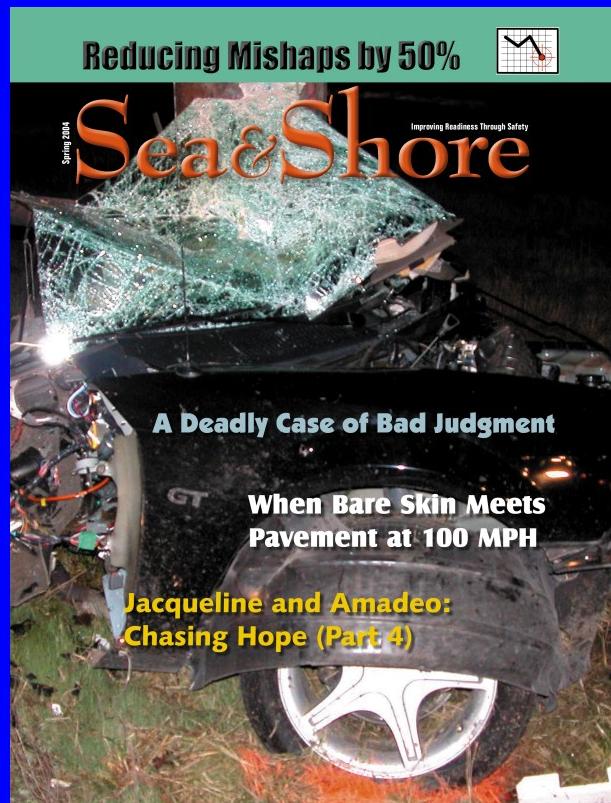
Aviation Maintenance
Safety Conference
25-28 April 2005



Naval Safety Center
Media Products and
Mech Magazine



Safety Magazines





Aviation Flight Safety



(1955)
1,880 addresses
15,609 copies

U.S. military,
Contractors, Foreign
Military, and
Government agencies.

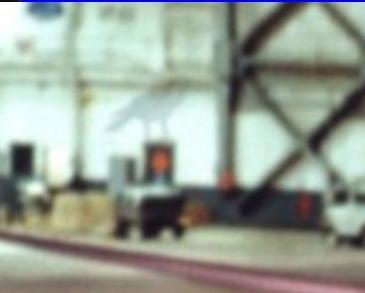
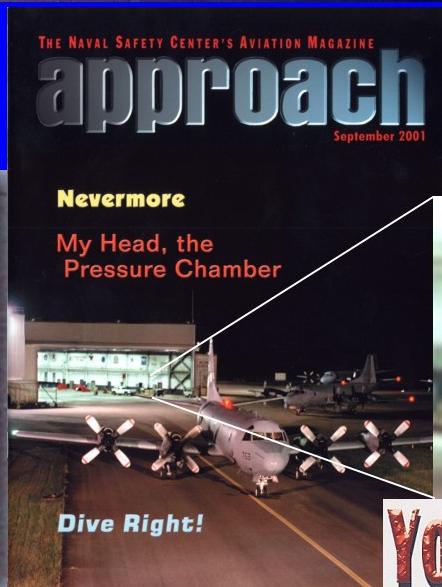


Features

- “There I was...” flight-related stories
- ORM/CRM
- Brownshoes in Comix
- Work Zone
- Good, Bad & Ugly
- Bravo Zulus
- Mishap-Free Milestones
- Ready Room Gouge



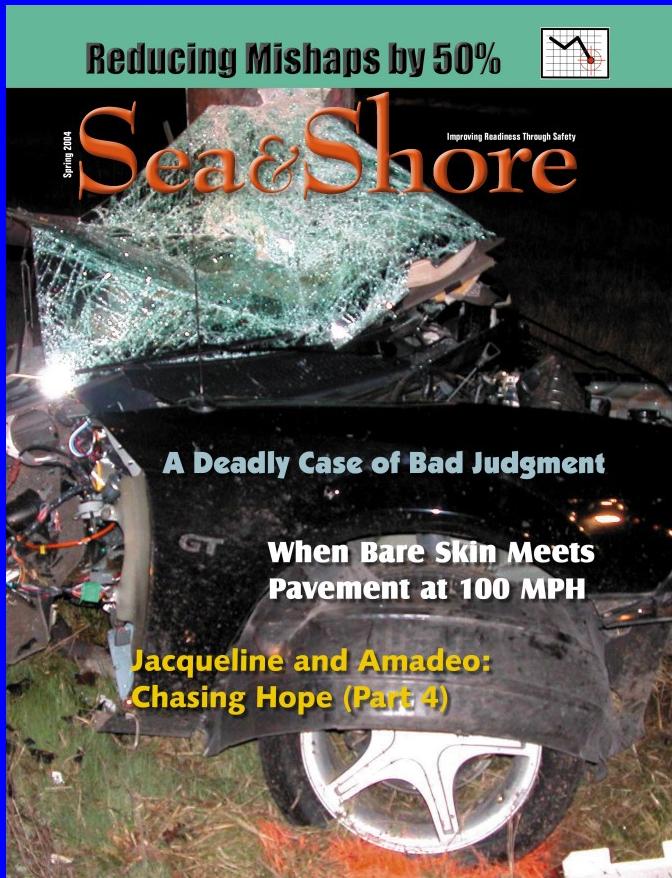
Type Stories



You, Too, Can Schedule a Mishap



Sea and Shore Safety



(1972) Lifeline
(1985) Safetyline
(1999) Ashore
(2004) Sea&Shore

2,870 addresses
29,040 copies

All DoD branches, other federal agencies, private vendors, and foreign governments



Features

- Traffic, off-duty, ship on-duty incidents, fire, OSH, recreation, athletic, high-risk training, and explosives & weapons
- Hats Off
- Our Dying Numbers
- Lucky Bag
- Binnacle List
- Back-cover safety posters
- Annual traffic-safety issue



Type Stories





Sailor's Tragic Story



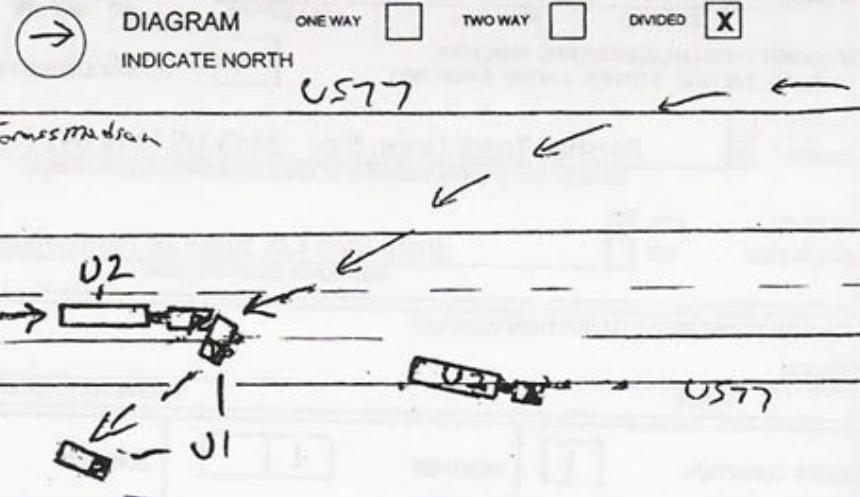


Mishap Details



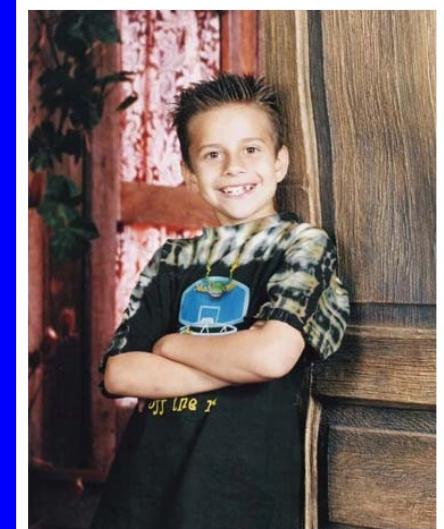
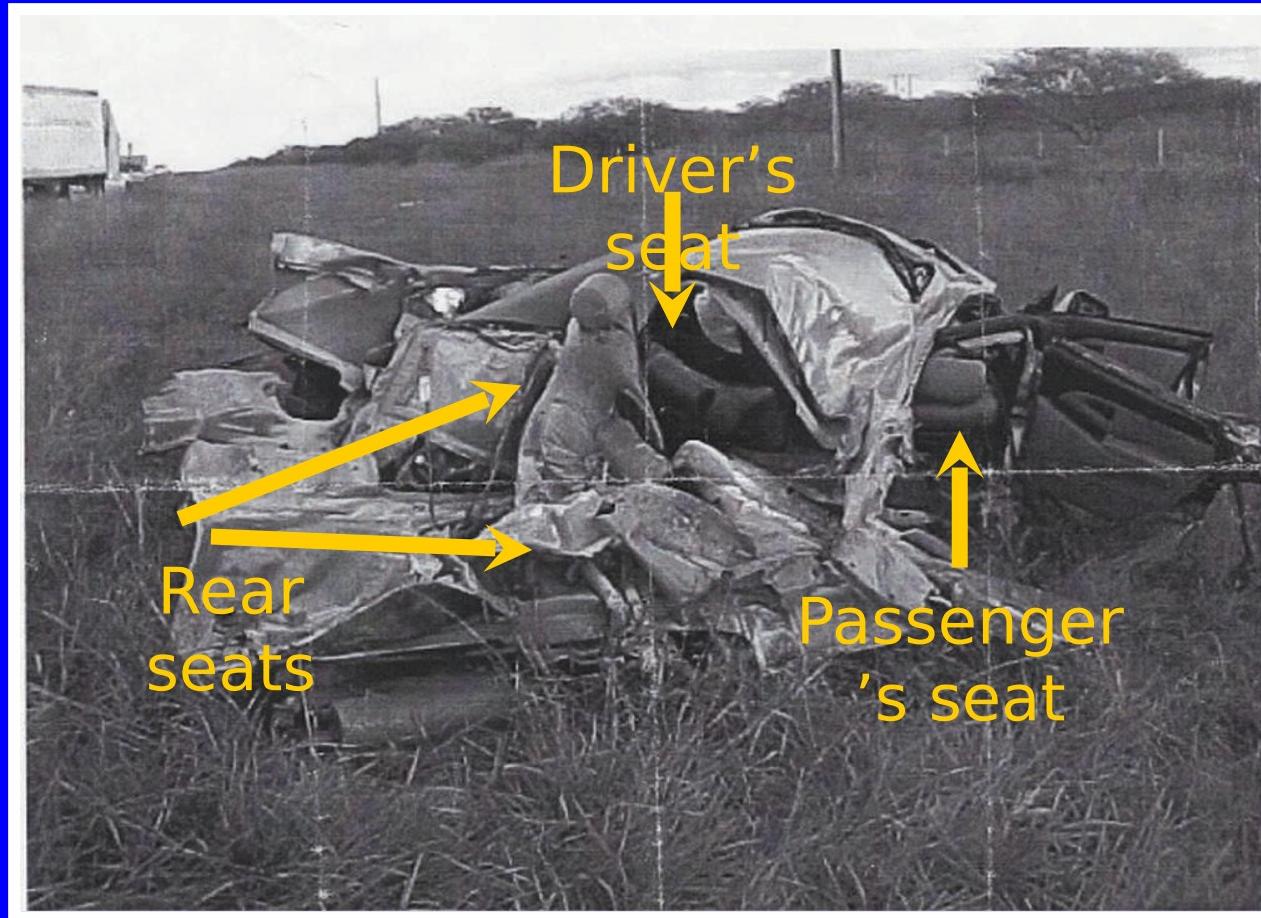
INVESTIGATOR'S NARRATIVE OPINION OF WHAT HAPPENED (ATTACH ADDITIONAL SHEETS IF NECESSARY)

U1 SB on US77. U2. towing trailer, NB on US77 in outside lane. U1 swerved to the left, causing vehicle to go into side skid as it entered the median. U1 began to rollover. U1 rolled out of the median into the NB lanes. Driver U2 observed vehicle entering his lane, applied brakes, locking wheels. U2 front-right struck U1 right-rear roof and trunk area as U1 rolls into U2's lane. U1 came to rest upright in the NB side ditch. U2 skidded to a stop on the NB shoulder.





Rest of the Story





Mishap Stats

Maintainers...FY95 to FY04

On the Job = 11
the Field = 38
Marine

Civilian
Maintainer
Civilian
Handler

Navy High Traffic Deaths - AM3-8,
AD3-6, AO3-6, AT3-5 and ADAN-5

High Shore Deaths - AT2-6,
ATAN-4, AT3-3,
AE2-2, AEAN-2,

	On the Road =	96	On
Avg. Rate:			
AW3	211.76	65.59	235.29
AZAN	194.17	ABF3	176.37
PRAN	133.33	PR3	154.24
ADAN	130.86	AS3	150.83
ABE2	127.12	AZAN	145.63
ABF3	123.46	AS2	140.66
ABAN	111.02	AD3	137.89
AM3	108.53	AE3	136.88
AO3	85.32	AE2	128.43
AZ3	95.24	PRAN	145.62

mech '61



44
Years
of
Service
to
the
Fleet

Reducing Mishaps—Saving Lives—Improving Readiness

Winter 2004-05

Mech

The Naval Safety Center's Aviation Maintenance Magazine



Do you see anything wrong with this picture?

Dan Steber
Contributing
Editor



Patricia Eaton
Designer



Mech Facts

- Est. 1961
- Quarterly (15 years as a bi-monthly)
- 17,343 copies
- 1,770 different commands or organizations:
 - Navy, Marines, Air Force, Army and Coast Guard
 - Contractors (Lockheed, Boeing, and others)
 - Government agencies (FAA, NASA, Customs, NTSB and others)
 - Foreign military (Canada, England, Australia, New Zealand, etc.)



Features

- Bravo Zulus
- Crossfeed
- Air Wing Toolbox
- Mishap Stats
- Survey Spotlight
- Work Zone
- Good, Bad & Ugly
- Editorial
- Centerspread Posters
- Back Cover Posters



Mech on the Web

-

www.SafetyCenter.mil/mech

• Current copies

• Maintenance
Spotlight

• Conference
Mechanics





Changes in Maintenance





P, P, P, P, P, P, P



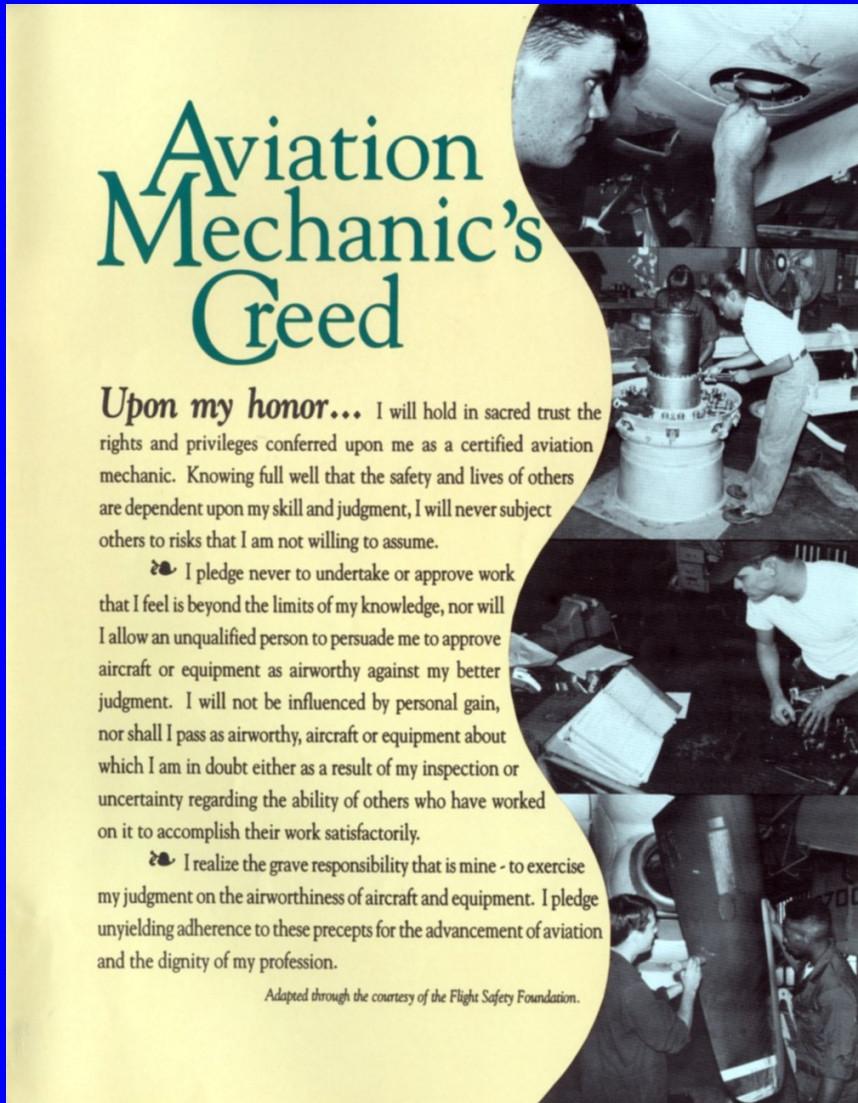
Aviation Mechanic's Creed

Upon my honor... I will hold in sacred trust the rights and privileges conferred upon me as a certified aviation mechanic. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I will never subject others to risks that I am not willing to assume.

• I pledge never to undertake or approve work that I feel is beyond the limits of my knowledge, nor will I allow an unqualified person to persuade me to approve aircraft or equipment as airworthy against my better judgment. I will not be influenced by personal gain, nor shall I pass as airworthy, aircraft or equipment about which I am in doubt either as a result of my inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

• I realize the grave responsibility that is mine - to exercise my judgment on the airworthiness of aircraft and equipment. I pledge unyielding adherence to these precepts for the advancement of aviation and the dignity of my profession.

Adapted through the courtesy of the Flight Safety Foundation.





Mech Stats

6 Maintenance-related Deaths FY00 - FY04

1

\$501, 022, 099

206

Events

\$100,204,419 per year

41

Events a year

Winter

196
9

THE

MECH

as seen by . . .



the safety officer

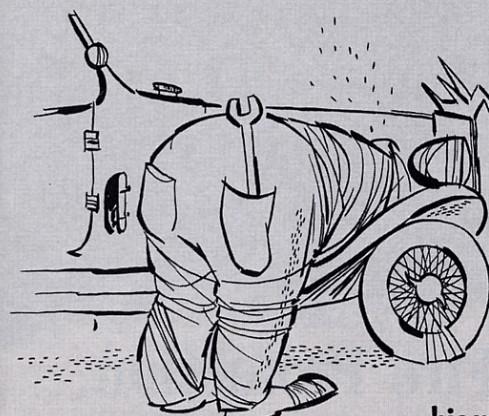
the maintenance chief



SLURP!

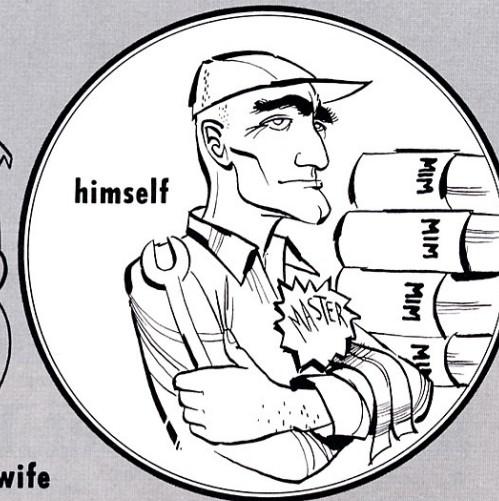


the pilot



his wife

himself

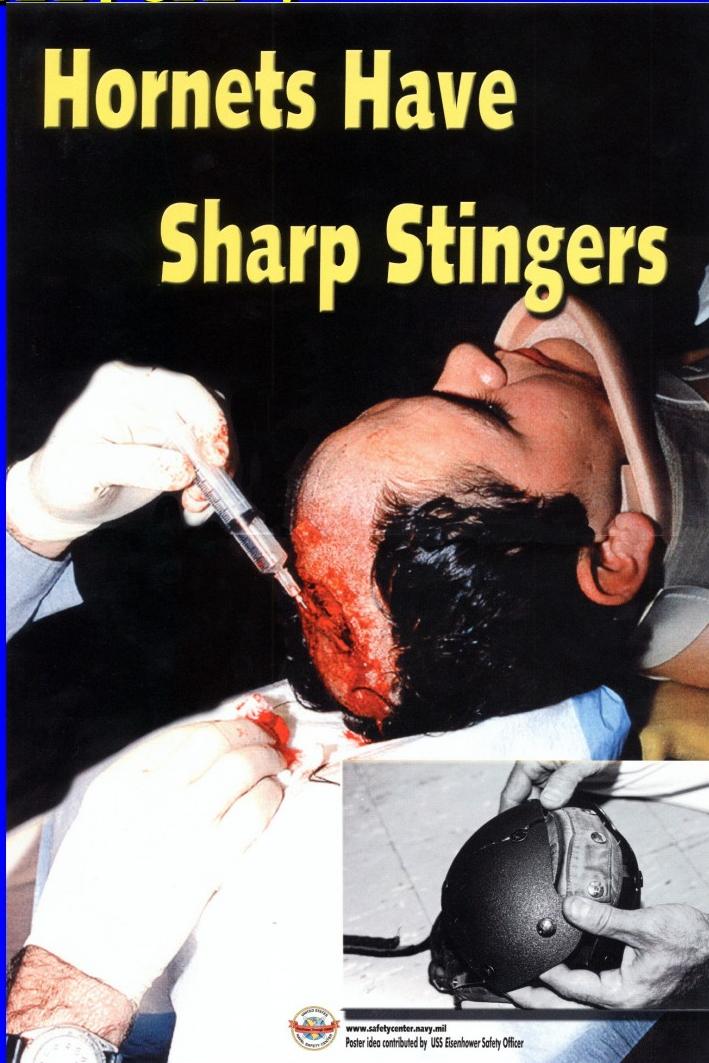




Head Bucket Saves Injury



**Hornets Have
Sharp Stingers**



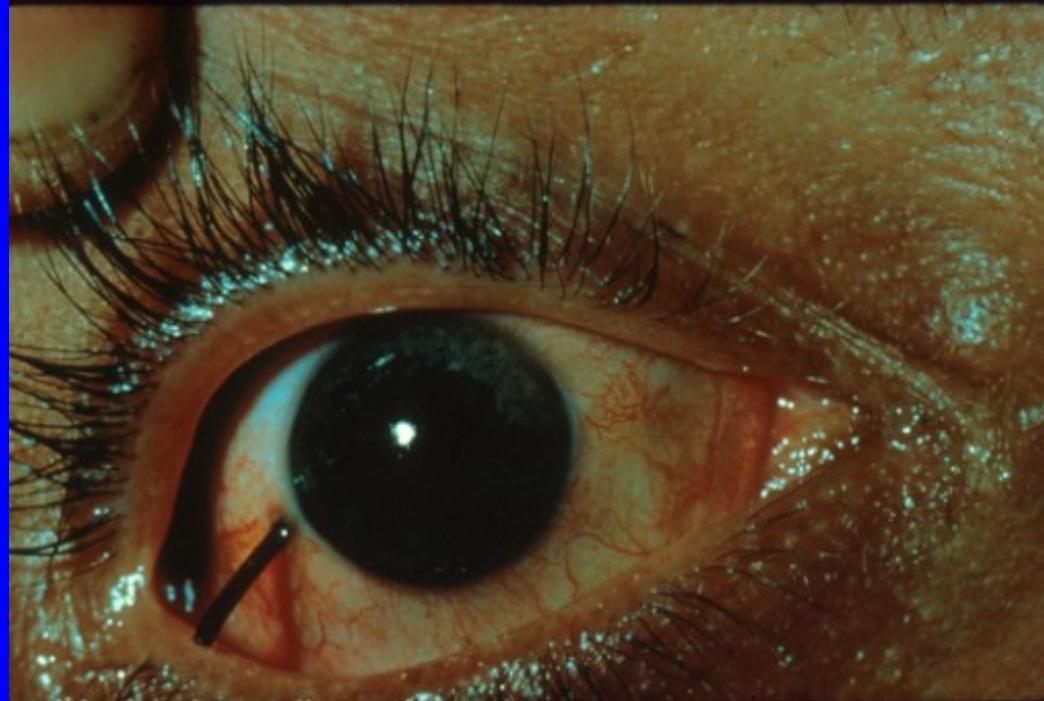


PPE Problems





PPE Problems





Hands/Fingers



Courtesy of *The Royal Navy Flight Safety Magazine*

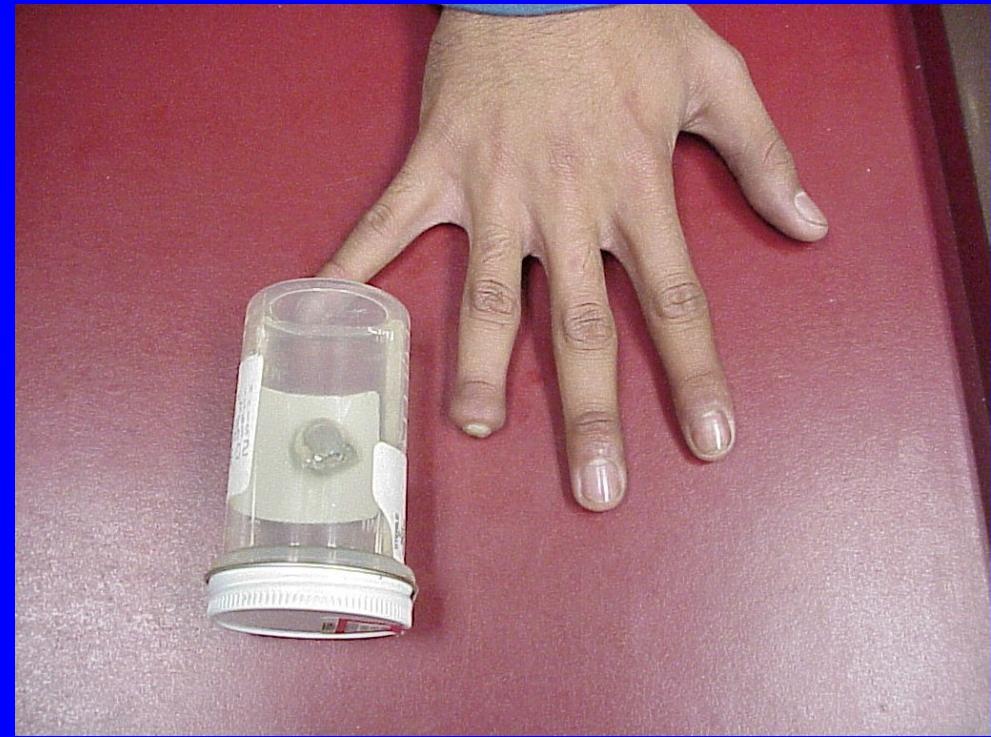
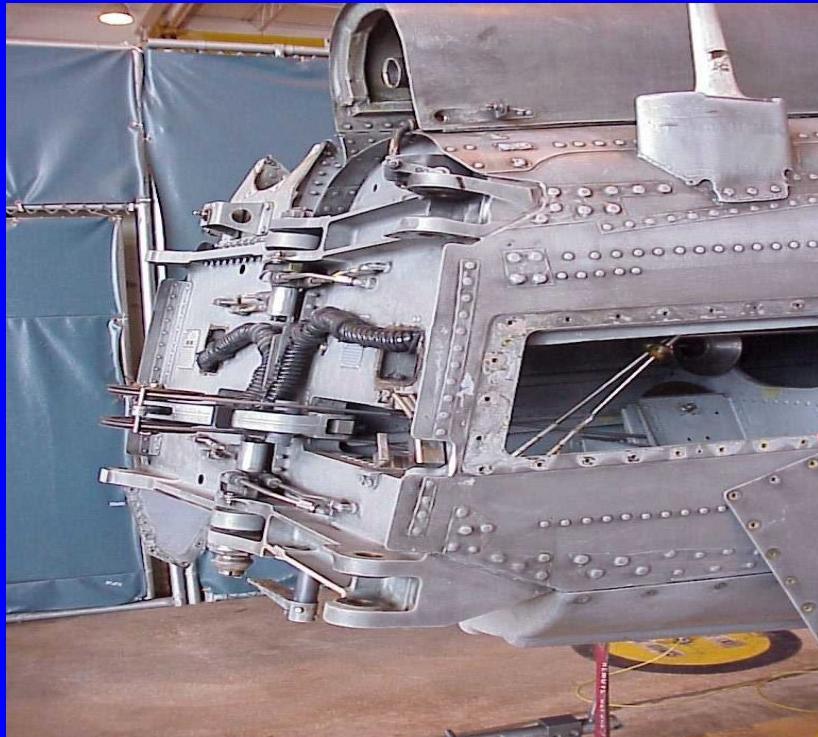


Hand and Finger Injuries



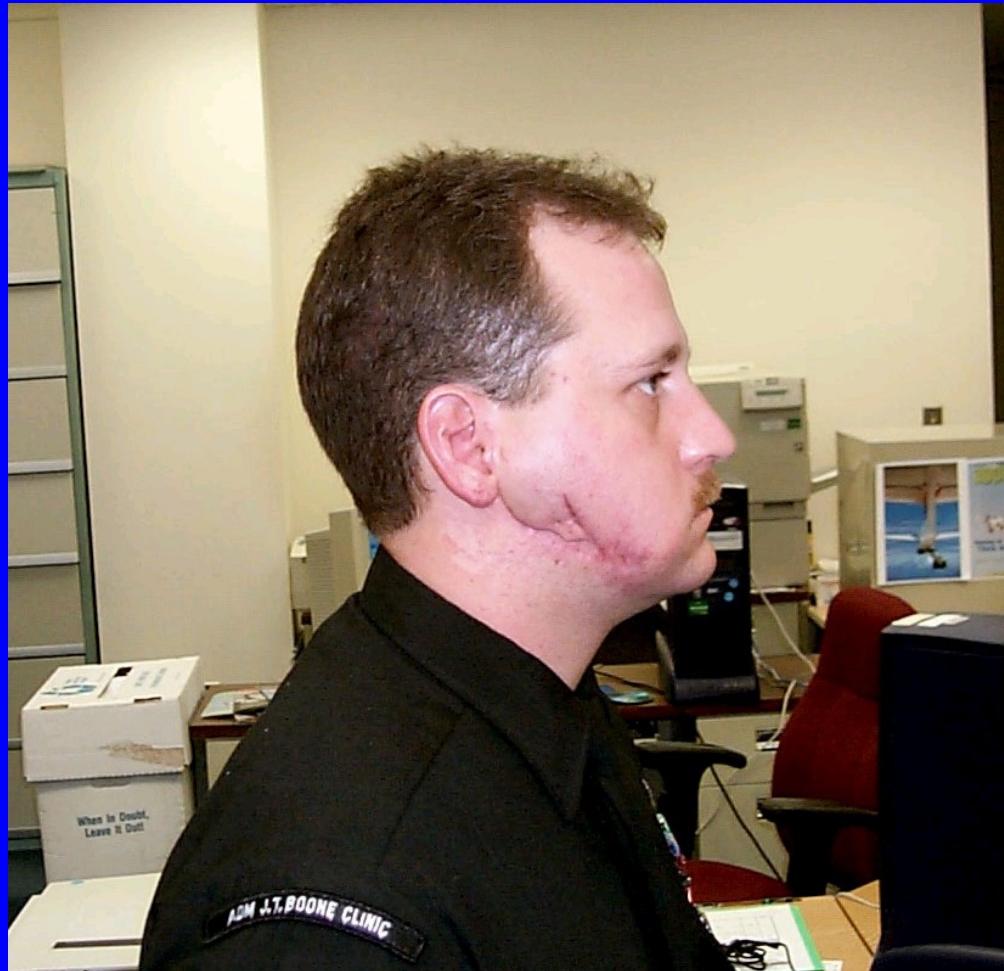


Finger in a Bottle





Faces/Feet





Hornet Hurts Hoof



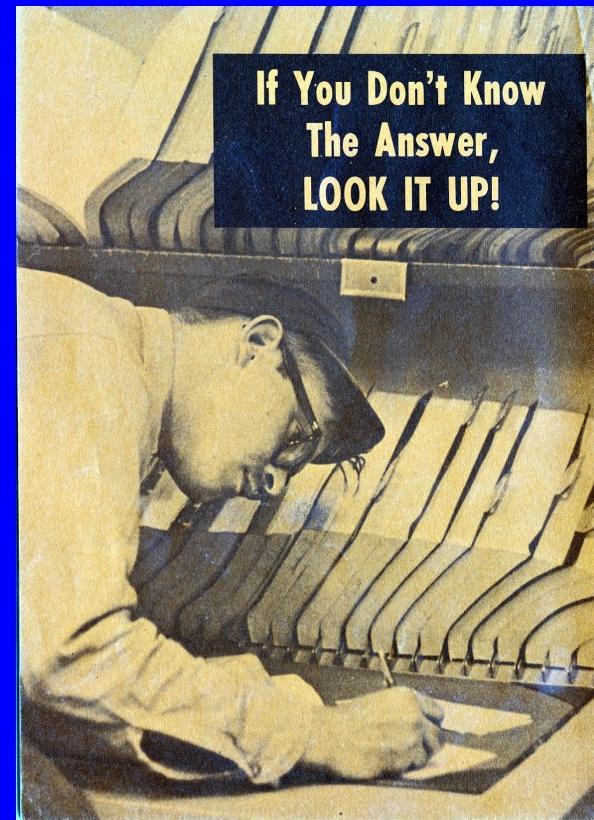


Stories in the Covers

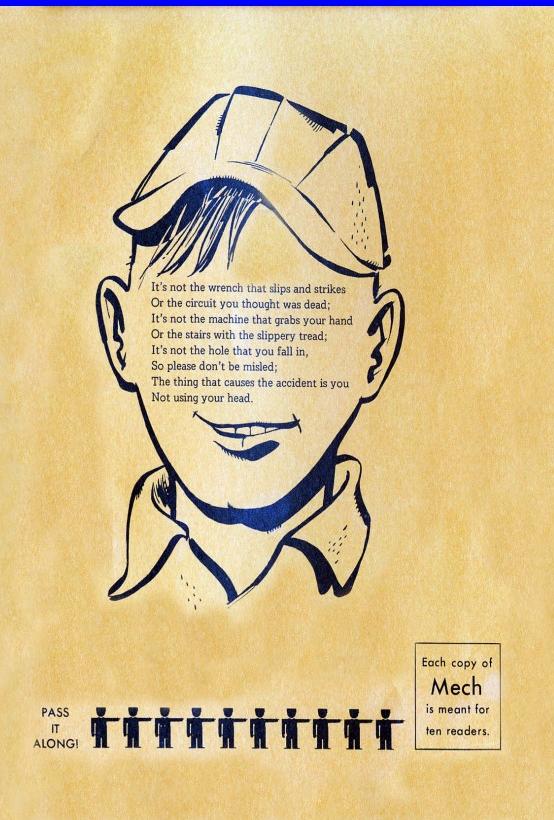


We must be ever mindful of the mistakes in aviation history or we are condemned to repeat them.

ComNavAvSafCn Circa '61



If You Don't Know
The Answer,
LOOK IT UP!



It's not the wrench that slips and strikes
Or the circuit you thought was dead;
It's not the machine that grabs your hand
Or the stairs with the slippery tread;
It's not the hole that you fall in,
So please don't be misled;
The thing that causes the accident is you
Not using your head.

PASS
IT
ALONG!

Each copy of
Mech
is meant for
ten readers.



Stories in the Covers

Batteries: Lithium or Mercury



**They
EXPLODE!**

Naval Safety Center
375 A Street
Norfolk, VA 23511-4399

mistakes that I made led up to the final event:

- Rushing to complete the maintenance action.
- Carelessness in using the port catwalk to the flight deck.
- Not getting into the proper flight deck uniform when it was called away on the 5-MC.
- Overly engrossed in the task at hand and oblivious to the hazards of the environment.
- Not protecting myself by properly fitting and strapping on my cranial helmet when the job was complete.
- Heading for the port catwalk (out of habit) to beat a hasty retreat, instead of using the flight deck stairs when returning.
- In my haste to clear the flight deck, I did not take proper notice of the surrounding areas and what I had to do to get away.

It was a hard lesson to learn, but not one to be soon forgotten.

Another thing I learned was to listen to my dispatcher. He'd told us to bring along an extra pair of our prescription glasses in case something like that happened, but since it *couldn't* happen to *ME*, I had neglected to bring an extra pair.

AT3 Dickson W. Caldwell, USN
VAQ-137 Avionics

The Shocking Experience

Naval Aviation Center, China Lake, CA — Just another routine battery change. Take it out of the aircraft, pull it on a cart to the battery locker, then exchange it for a new one. "Yeh, yeh, yeh . . . I know what I'm doing," I thought. I had done this a thousand times before. Big deal!

Although AOS Timothy M. Hill had his hands full after he had just changed the battery on one of the station's helos, how many of us have felt this way about seemingly mundane, everyday, "housekeeping" kind of job work? After all, the battery was lifted onto a work counter in the battery locker. It was at this time that Petty Officer Hill noted flashes and smoke coming from

the battery. After putting the battery down on the counter and looking around for the source of the flashes and smoke, he noted that the aircraft's terminal had been closed. Looking further, he then noticed that his belt buckle was damaged; the damage included two 3/4-inch holes burned through the leather belt. The metal tip of the metal belt tip piece to the buckle.

This time, Petty Officer Hill was faced with having to turn this event into a very unpleasant experience or turn it into a catastrophe! . . . not much! What might have happened if the aircraft's main fuel tank had been hit? Or if the skin had come off, or if the battery (or one nearby) had been gassing, is anyone's guess.

Remember, to being a thermal runaway hazard, nickel batteries can also provide you with a "shocking experience." The maintenance personnel at China Lake now have a healthy respect for metals and how to handle them.

LCDR E. J. Lancaster, USN
Naval Aviation Center, China Lake

▲ Words can describe a situation, but the use of photos allows you to graphically present a vivid example of what happened and the damage that actually occurred. Reread, look, and heed!

SUBSCRIPTION ORDER FORM

ENTER MY SUBSCRIPTION TO:

② \$	Domestic	② \$	Foreign
NAME—FIRST, LAST _____			
COMPANY NAME OR ADDITIONAL ADDRESS LINE _____			
STREET ADDRESS _____			
CITY _____	STATE _____	ZIP CODE _____	(or) COUNTRY _____
PLEASE PRINT OR TYPE			

- Remittance Enclosed (Make check payable to Superintendent of Documents)
- Charge to my Deposit Account No. _____

MAIL ORDER FORM TO:
Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

Fall 1982



Photos by PhM Martin A. Scott, USN, NWC, China Lake

Safety Considerations— On and Off the Job

Capt. J.H. Gleason, USNC:
Training Department
NAS Whiting Field
Milton, Fla.



ONE evening I set out to change the oil in my girlfriend's car, a chore I had been procrastinating about for many days. After getting everything ready, I realized that the oil in her car would be quick and easy. Her car was one of those sporty compacts with the engine mounted sideways. The design had allowed plenty of room to work on the engine, in this case the oil filter was right up front, next to the alternator. I figured I could easily get my hands in there and the oil would not run all over when I removed the filter. As I twisted off the filter, I saw two large sparks fly from my hands. My first thought was "What the hell is this?" In fact, I didn't feel anything. Where did the sparks come from? I guessed they must have come from the alternator terminals next to my hand. But why, I hadn't been using any tool?

I then recalled an article I'd read recently concerning an avionics technician who had been zapped when his watch made an electrical contact. Indeed, I was wearing my watch when I saw the sparks. Interestingly, I remember wondering if I should take off my watch before starting this job, but decided against it since I surely wouldn't scratch it up on this easy job.

I was relieved to see my expensive watch was still in one piece and my arm wasn't burned. However, what I did find were two marks on the metal chrome edge of the watch near the 9 and 12 o'clock positions. I quickly I wiped them off and the watch didn't seem to be the alternator terminals. I learned a valuable lesson. If you instruct your personnel not to work on aircraft while wearing jewelry, apply it to everyone (yourself included) even when working on autos off the job. I also learned that complacency can bite you anytime/anywhere, and as always, when you least expect it.

You can bet in the future my watch and any other jewelry will be on the kitchen counter whenever I go to work on a car or any other electrical/mechanical device.

October/November 1985



Stories in the Covers



Photo provided by
AD2(AW) Joseph A. Marino,
VAW-116



A
SHORTCUT
IS THE
LONGEST
DISTANCE
BETWEEN
TWO POINTS



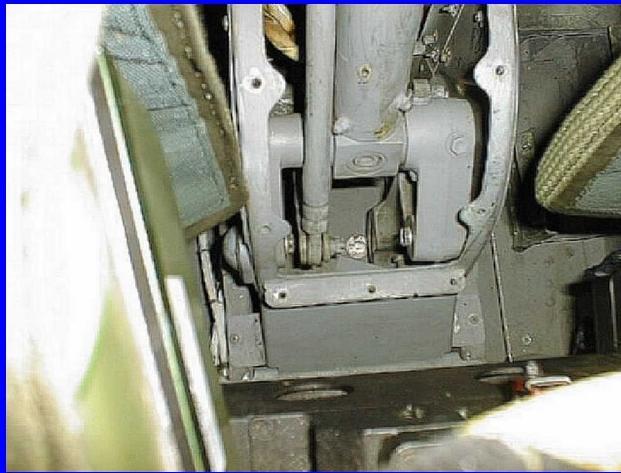
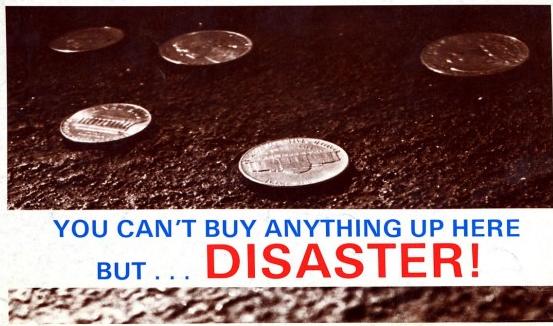
Poster idea contributed by MAG 49, 4th MAW, PMF, USMC, NAS Willow Grove



Stories in the Covers



CHECK YOUR POCKETS





Stories in the Covers

22
ways an aircraft can kill or injure
on the flight deck

- * Jet Intakes
- * Jet Exhausts
- * Turning Propellers
- * Tires – Running Over You
- * Tires – Exploding
- * Landing Gear Collapse
- * Arresting Gear Hook Dropping
- * Canopy – Closing
- * Canopy – Emergency Jettison
- * Fuel Spill/Fire
- * Ejection Seat – Ejecting
- * Ejection Seat – Drogue Gun Firing
- * Hydraulic Fluid – High-pressure Penetration through Skin
- * LOX – See “Mist From LOX” for Details
- * External Fuel Tanks – Dropping Off
- * Ordnance – Dropping Off
- * Electrical Shock – External or Internal Power
- * Electrical Shock Disconnect During Start
- * Huffer Hose Disconnect During Start
- * Exposure to RADAR Radiation
- * Hydraulically or Electrically Actuated Surfaces (aileron, flaperons, stabilators, flaps, slats, speedbrakes, etc.)
- * Being “In the Way” During Launch and Recovery Operations

Stay alert, stay alive.

Submitted by LCDR R. R. Ayres, USN
Attack Squadron ONE SEVEN SIX
Naval Safety Center
NAS Norton, Virginia

AIRCRAFT DO BITE

by Lt. Charles Ryan

During a preflight, our in-flight technician suspected that the cooling fan of a UHF radio was not working. To check it, he reached around to the back of the radio and placed his hand over what should have been the protective grate over the fan.

Someone had installed the fan backward, and the blades extended beyond their protective housing. They cut off half of the little finger of his right hand.

While most of the crew frantically searched for the finger, others rushed the technician to a local civilian hospital.

They never found the finger. The best the surgeon could do was to grind down the bone and pull up and sew skin over it.

This incident happened the day after a safety standdown. Four other maintenance technicians failed to notice the improper fan installation before the accident.

The squadron had received the radio from AIMA. The improper fan installation was noticed by an AIMA inspection technician, AIMA CDI, squadron installation technician and squadron CDI.

Lessons learned can be painful. Let your safety guard down for a moment and you, too, could get bitten.

Mech

20



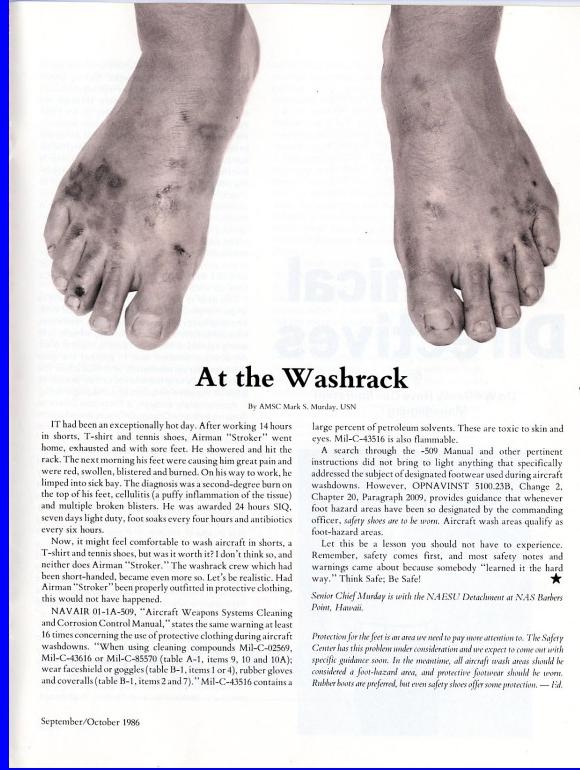


Stories in the Covers

What if you had an eye emergency?

Keep emergency stations free of hazards

www.safetycenter.navy.mil
Poster idea contributed by AMT John Shaeffer



What Am I?

I am oftentimes unseen,
but of most importance.
I assure acceptance of your work.
I am your responsibility.
I create friendship
and good will...
I inspire confidence and
respect...
everybody wants me.
I cost nothing...and I should
be a part of everyone's
handiwork.
I provide for job security.
I am an integral part of fine
craftsmanship.

I AM QUALITY

NFC's 1973 Annual Industrial Newsletter



Stories in the Covers

**CORROSION
IS THE PITS!**



FIND IT, FIX IT
—but never forget it!

Idea contributed by B. SOWERS

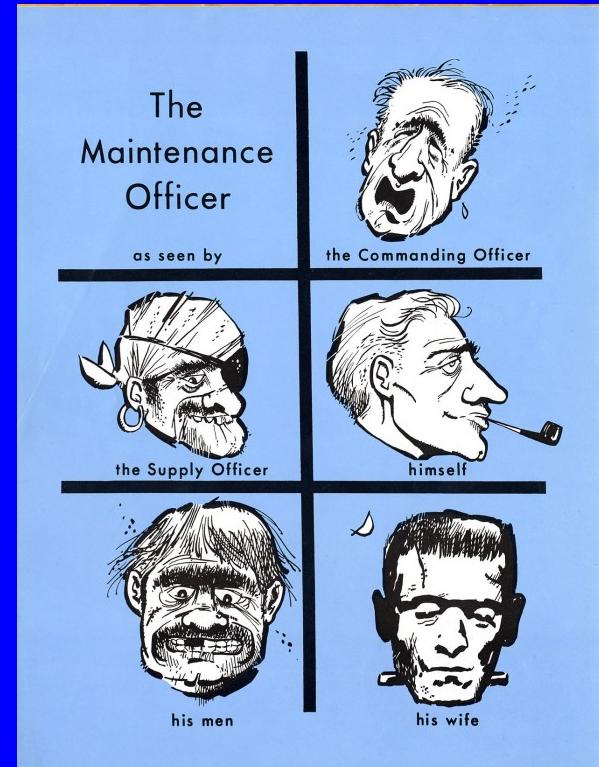
F is for how FAMILIAR we are with the problem.

O is for the OTHER GUY whose fault it always is.

D is for the DAMAGE caused and the DOLLARS it costs.

Idea submitted by VT-9

Fight Dirty
... and live!





Stories in the Covers





Questions





Thank You
Enjoy the
Maintenance
Safety
Conference

Visit us at SP-91
Norfolk, VA

